

Columbia Pike Transit Initiative: Community Briefings

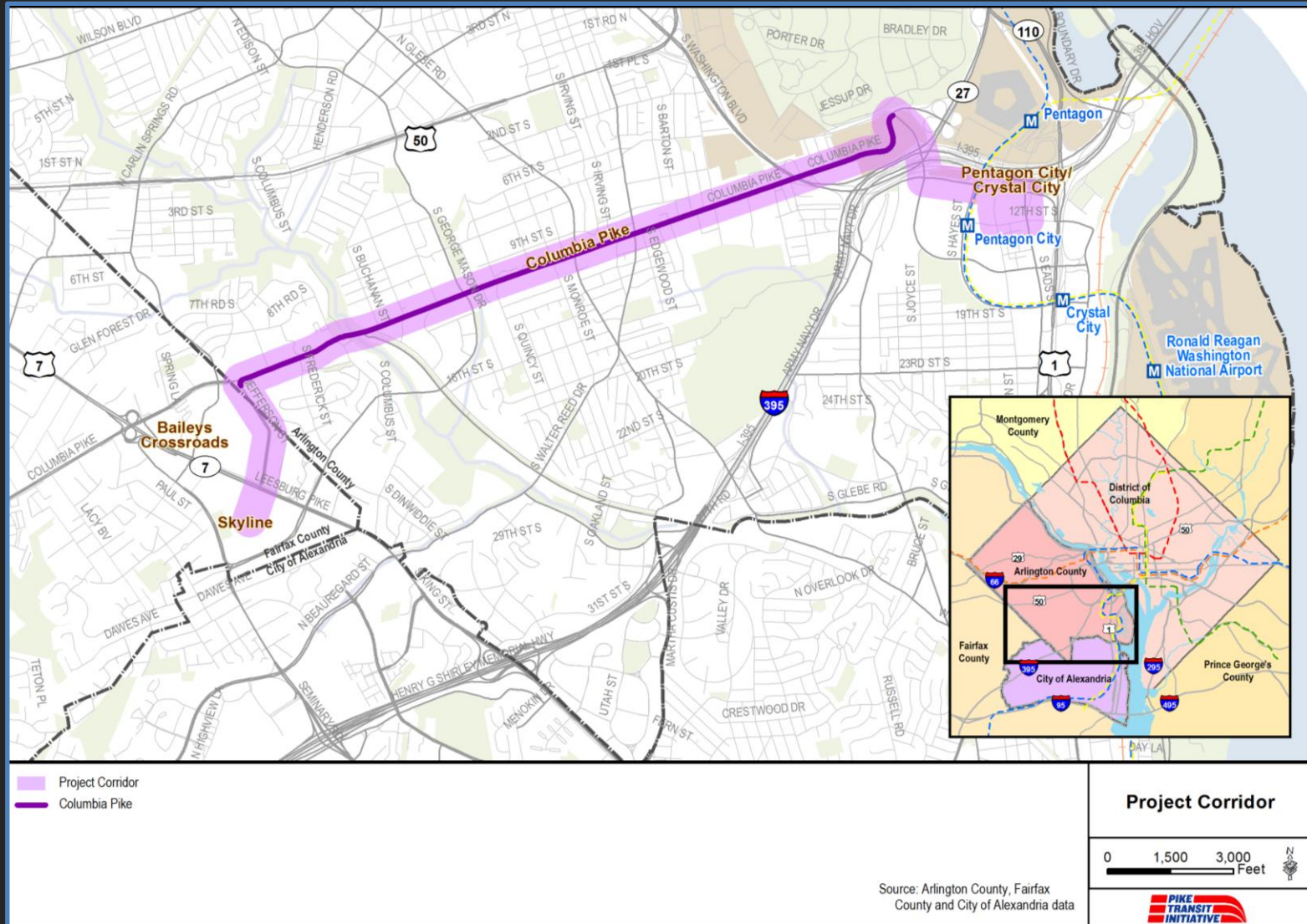


February 2012

Agenda

1. Welcome and Introductions
2. Project Status and Schedule
3. Purpose of the Project
4. Highlights of the Draft Alternatives Analysis/
Environmental Assessment
5. Next Steps
6. Questions

Project Corridor



2. Project Status and Schedule

Status Update

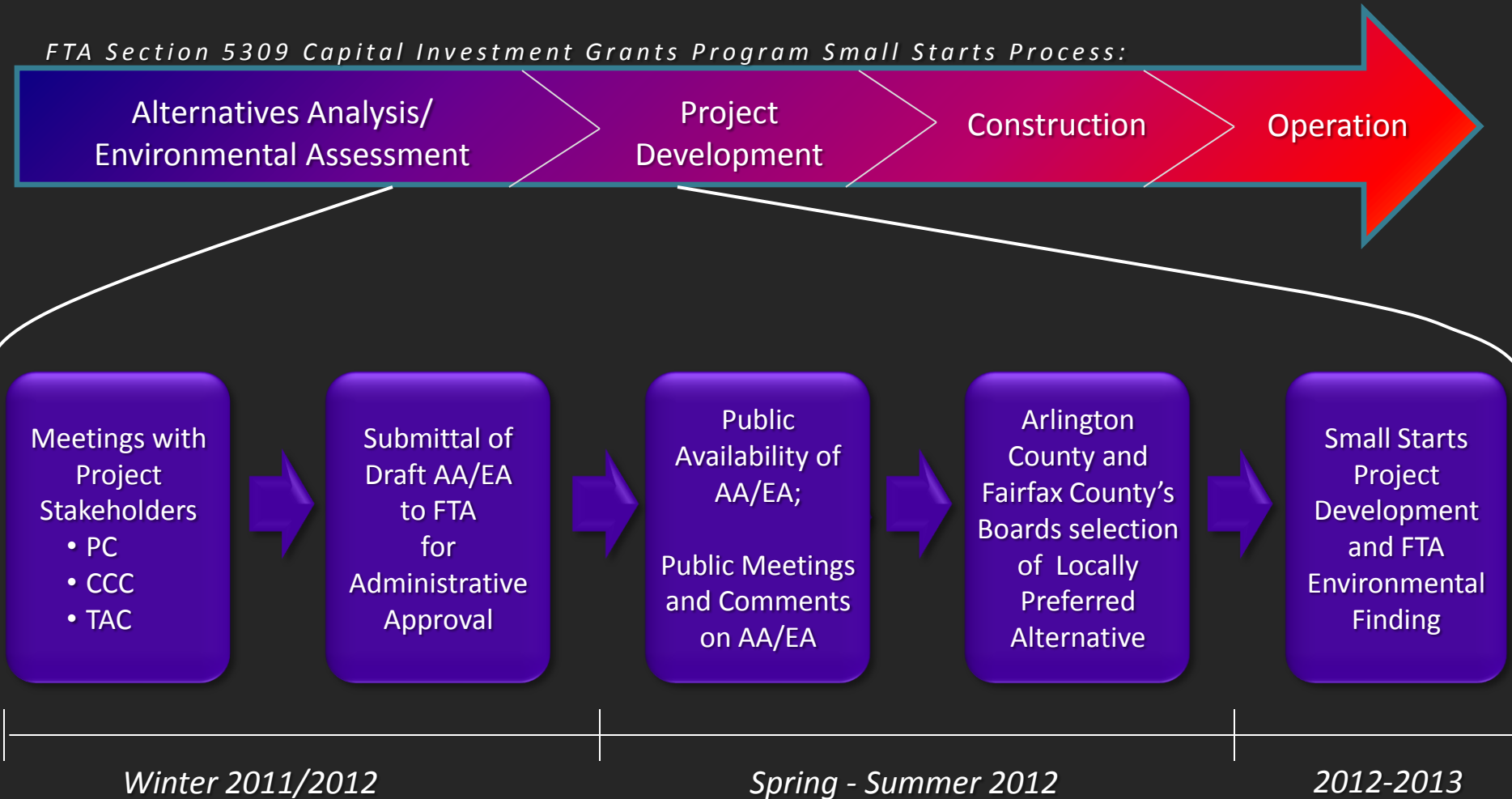
How has the project developed and progressed in 2011?

The Project Management Team (PMT) has:

- Confirmed the extent of the initial project:
Skyline to Pentagon City
- Advanced the design, refined alternatives, and prepared cost estimates
- Prepared technical documentation to reflect refinements

Upcoming Project Milestones

FTA Section 5309 Capital Investment Grants Program Small Starts Process:



3. Purpose of the Project

Purpose

The PURPOSE of the Columbia Pike Transit Initiative is to:

- Provide increased capacity;
- Enhance access within the corridor and to the regional transit network; and
- Support economic development along the corridor.

Problems & Needs

Problem	Need
Limited roadway capacity to handle an increase in automobile trips.	<ul style="list-style-type: none">• Increase transit capacity• Improve transit mode share
Existing transit capacity is insufficient to support future growth and economic development within the corridor.	<ul style="list-style-type: none">• Invest in transit service that supports growth and economic development.
Skyline, a regional center of office, residential, and retail activity, is poorly connected to the regional transit network.	<ul style="list-style-type: none">• Improve transit access and regional connectivity to and from Skyline.

Proposed Action

To implement a high-quality, high-capacity transit service between Skyline and Pentagon City.

The project fosters the counties' vision for Columbia Pike as a multimodal corridor, linking its walkable, mixed-use, mixed-income neighborhoods and connecting to the Washington, DC area transit network and the region's major activity nodes.

4. Highlights of the Draft AA/EA

Updated Definition of Alternatives

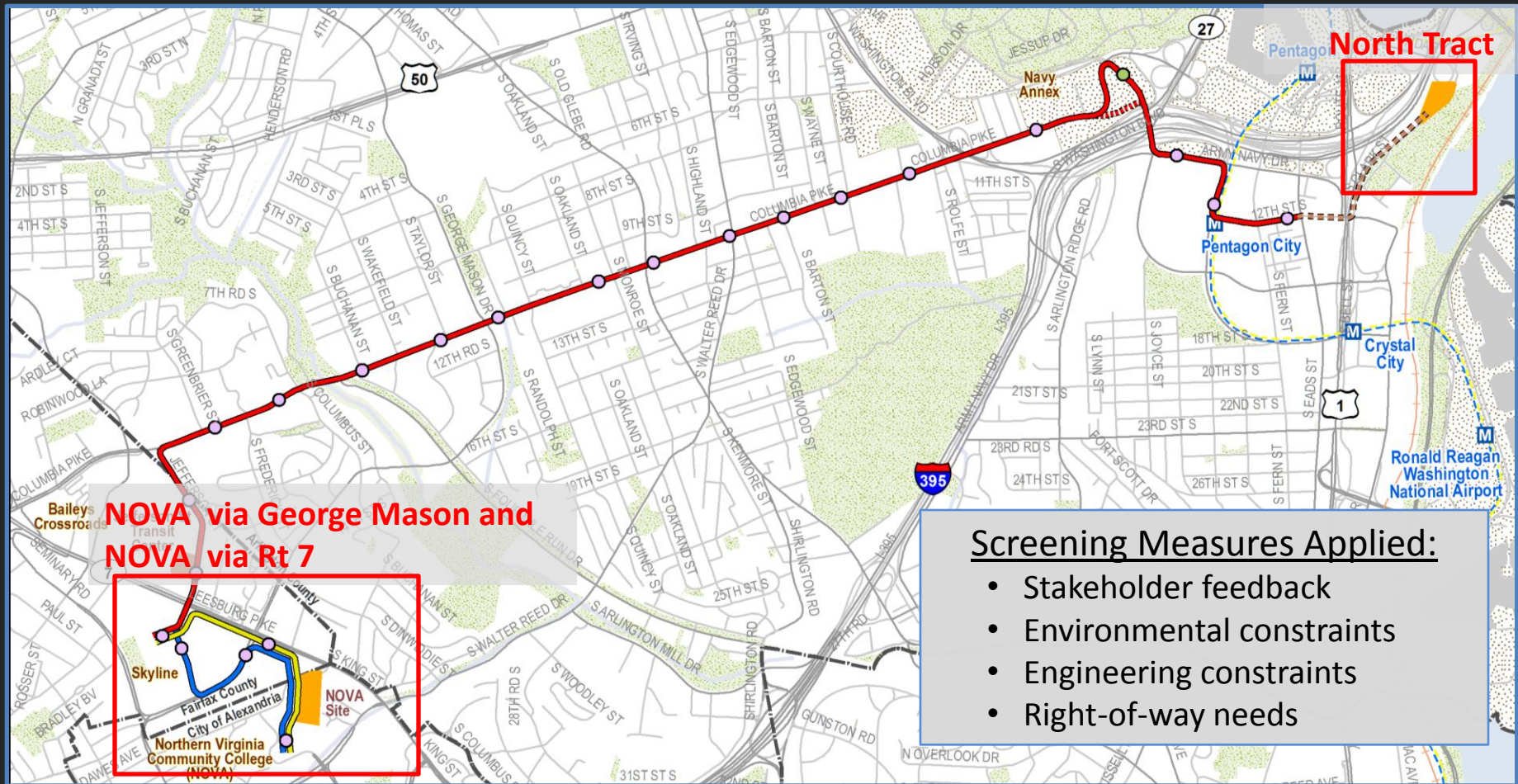
The project is evaluating four refined alternatives:

- No Build
- TSM 1 - Enhanced Bus
- TSM 2 - Articulated Bus
- Streetcar Build

Three design options not carried forward:

- Northern Virginia Community College (NOVA) via Route 7
- Northern Virginia Community College (NOVA) via George Mason Drive
- North Tract

Previously Considered Design Options



Characteristics of Alternatives

	No Build	TSM 1	TSM 2	Streetcar Build
Planned Service Enhancements	✓	✓	✓	✓
Consolidated Stop Locations along Columbia Pike		✓	✓	✓
Improved Service Coverage (Skyline)		✓	✓	✓
Off-Board Fare Collection and Multi-door Boarding			✓	✓
Increased Vehicle Passenger Capacity			✓	✓
Full Program of Stop Upgrades (including transit center and near-level boarding)			✓	✓
Rail Vehicles and Associated Performance Characteristics				✓

Key Facts: No Build Alternative

Transit Operations:

- Continue current transit service along the Pike

Station Stops:

- Continued use of existing stops(at most intersections, ~1/8 mile apart)
- Implementation of the Super Stops program, which includes 24 enhanced stops along Columbia Pike

Fare collection and boarding:

- On-board fare collection; boarding through front door

Notable Projects included under No Build

- Multimodal Project
- Super Stops Program
- Washington Boulevard Bridge and Interchange

No Build Alternative: Current and Planned Projects along Columbia Pike

Project:

Lead Agency:

Streetscape Improvements

- Baileys Crossroads Streetscape Improvements
- Columbia Pike Streetscape Improvements

Fairfax Co.
Arlington Co.

Roadway Improvements

- Columbia Pike Multimodal Street Improvements
- Pentagon City Multimodal Improvements
- Washington Boulevard (VA 27) Bridge and Interchange

Arlington Co.
Arlington Co.
VA Dept. of Transportation (VDOT)

Station Stop Improvements

- Columbia Pike Super Stops Project

Arlington Co.

Transit Efficiency Improvements

- Transit ITS
- Bus Information Technology Deployment and Signal Prioritization

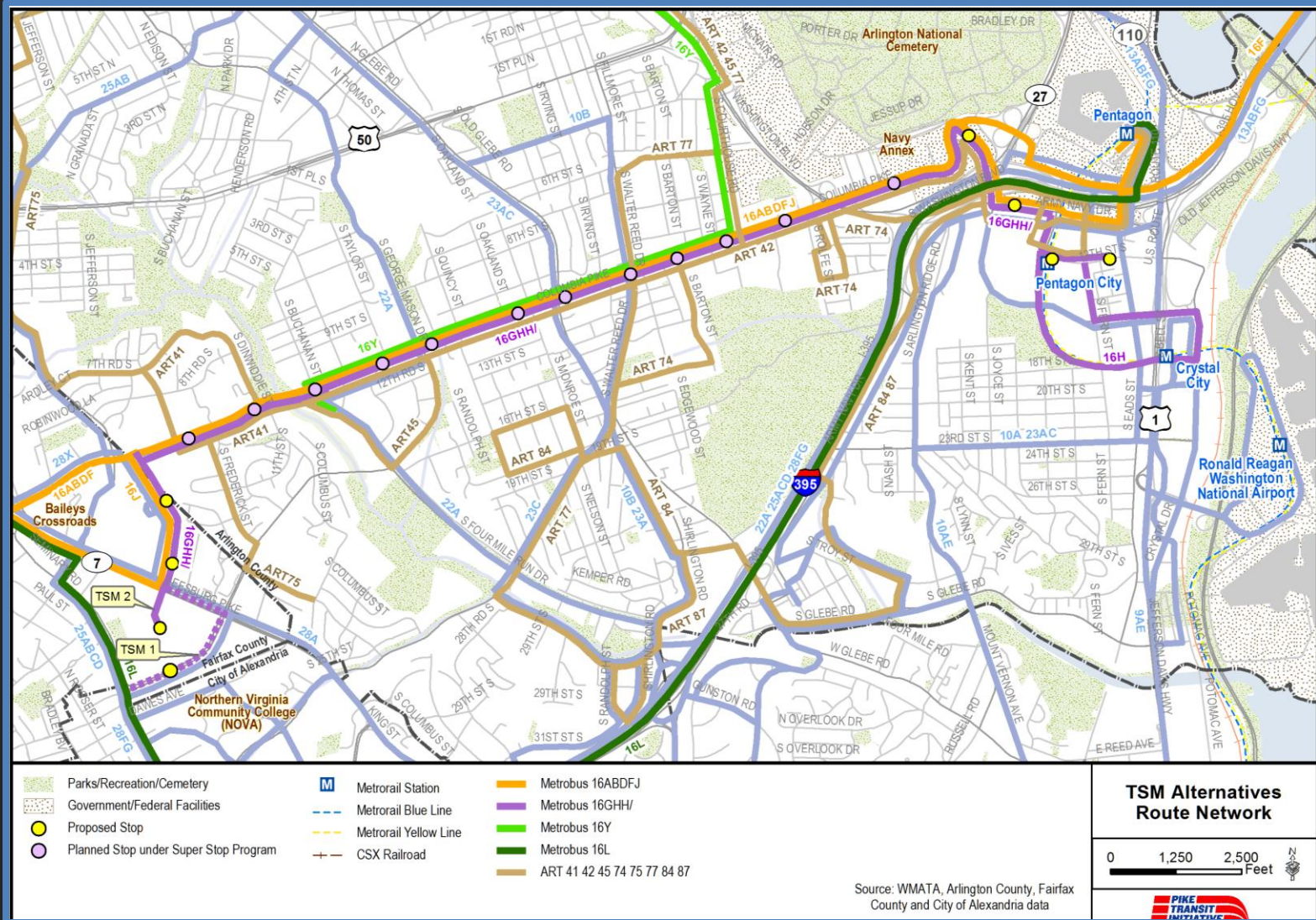
Arlington Co.
Arlington Co.

Path Construction:

- Bicycle Path Construction
- Shared Use Path Construction

Arlington Co.
Arlington Co.

TSM- Enhanced and Articulated Bus: Route Network



Key Facts: TSM Alternatives

- TSM improvements are intended to increase system capacity and improve transit efficiency
- All projects included in the No Build Alternative are included in TSM 1- Enhanced Bus and TSM 2- Articulated Bus

TSM 1- Enhanced Bus

To improve *transit service*:

- Improves service to Skyline by extending the 16G and 16H routes

To increase *transit capacity*:

- Deploys additional buses on existing routes

To increase *transit efficiency*:

- All transit routes serve consolidated bus stops

To provide increased *passenger convenience*:

- Makes use of Super Stops infrastructure and passenger information



Key Facts: TSM Alternatives (Continued)

TSM 2- ARTICULATED BUS

To improve *transit service*:

- Improves service to Skyline by extending the 16G and 16H routes

To increase *transit capacity*:

- Deploys additional buses on existing routes
- Deploys articulated buses on existing routes (16G, H)

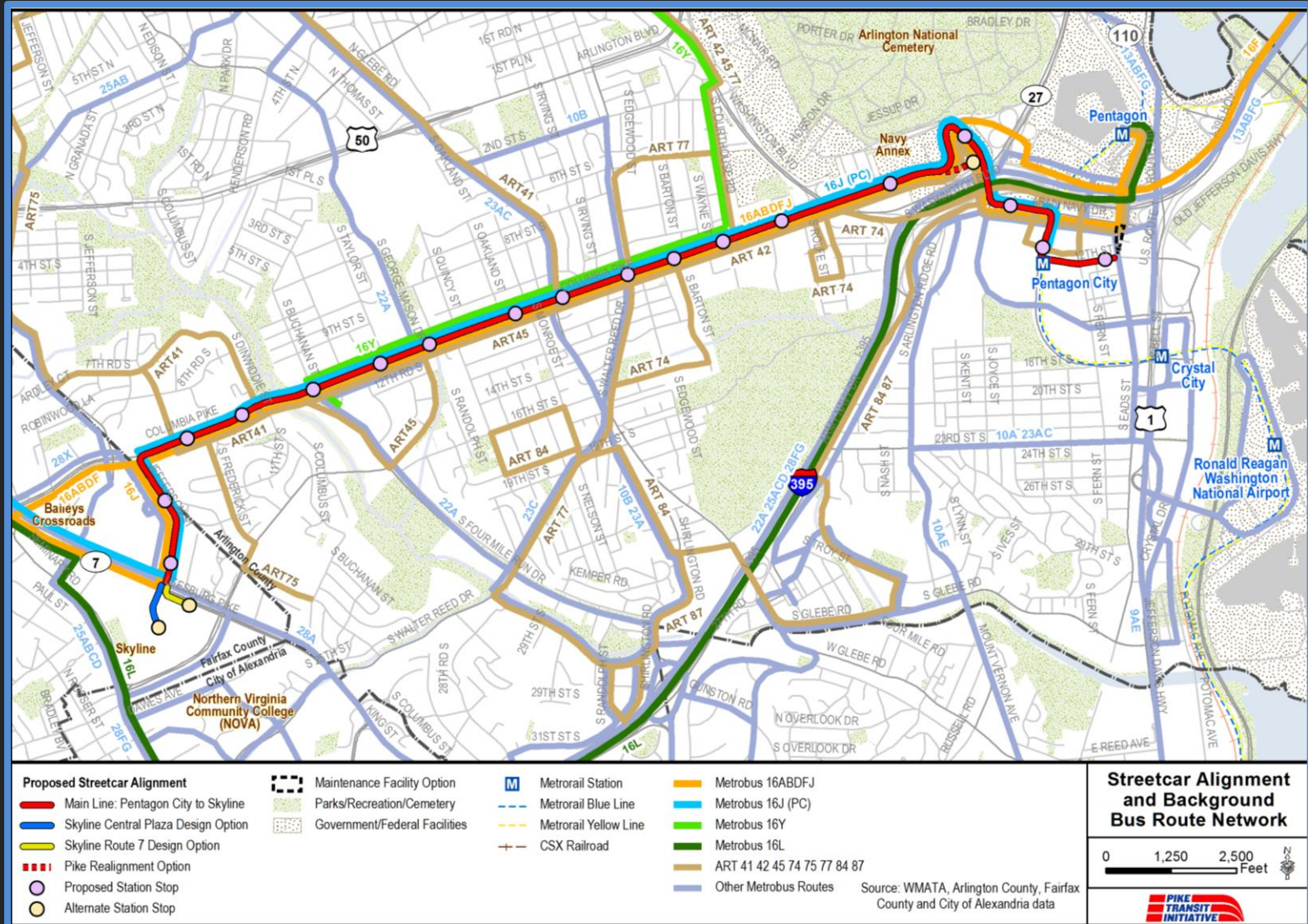
To increase *transit efficiency*:

- Consolidated bus stops
- Off-board fare collection
- Boarding and alighting through all doors

To provide increased *passenger convenience*:

- Additional Super Stops in Pentagon City and Skyline/Baileys Crossroads
- Jefferson Street Transit Center

Streetcar Build Alternative: Alignment and Background Bus Service



Key Facts: Streetcar Build Alternative

To improve *transit service*:

- Frequent, all-day streetcar service between Skyline and Pentagon City
- Modifies the bus network to complement streetcar service:
 - Removes bus lines that follow the same routing as streetcar service (16G, H)
 - Introduces 16J(PC) bus route to provide service from Culmore and Skyline to Pentagon City

To increase *transit capacity*:

- Deploys modern streetcars
- Deploys additional buses on existing routes

To increase *transit efficiency*:

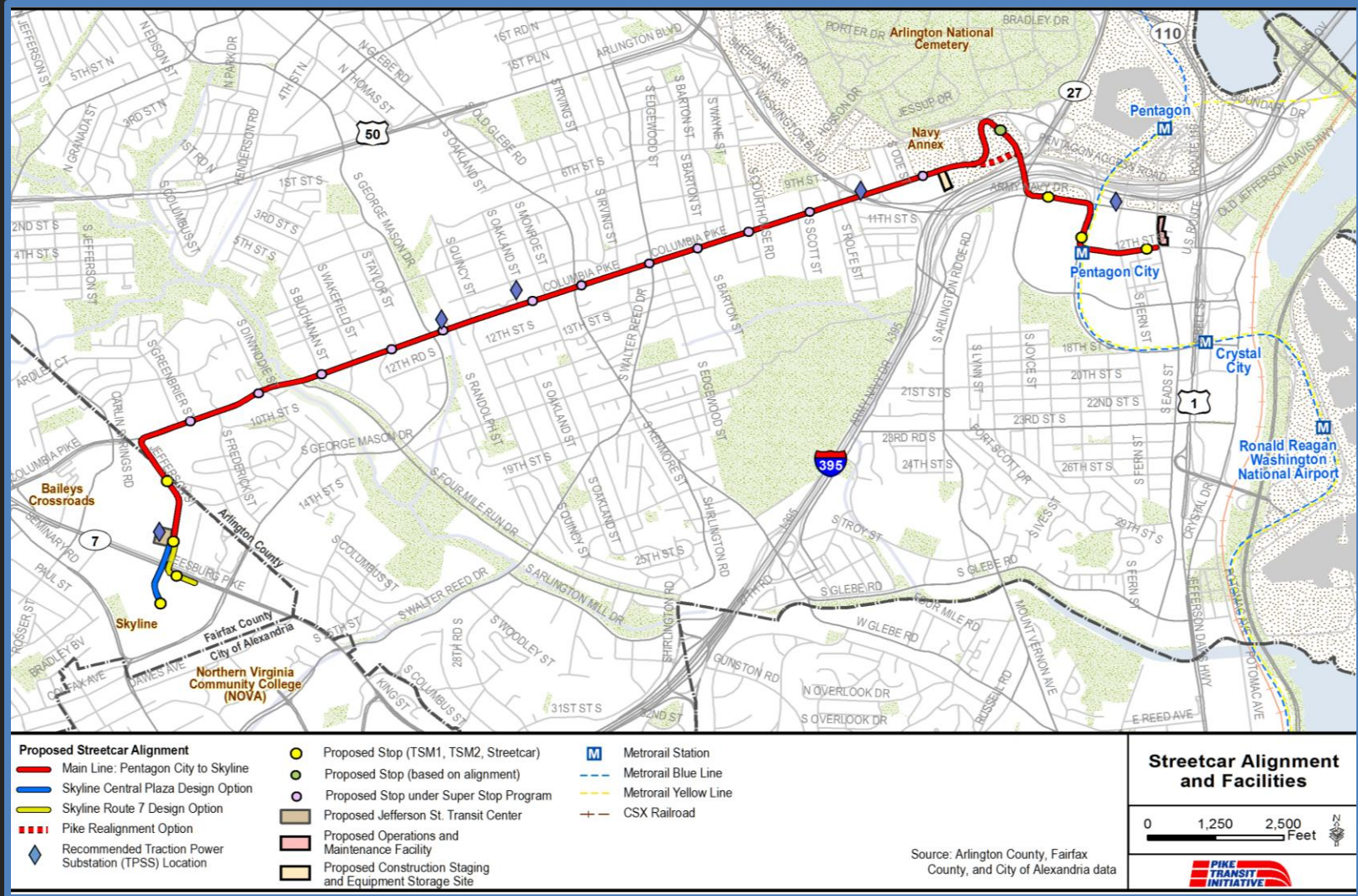
- Consolidated bus stops
- Off-board fare collection
- Boarding and alighting through all doors

To provide increased *passenger convenience*:

- Additional Super Stops in Pentagon City and Skyline/Baileys Crossroads
- Jefferson Street Transit Center



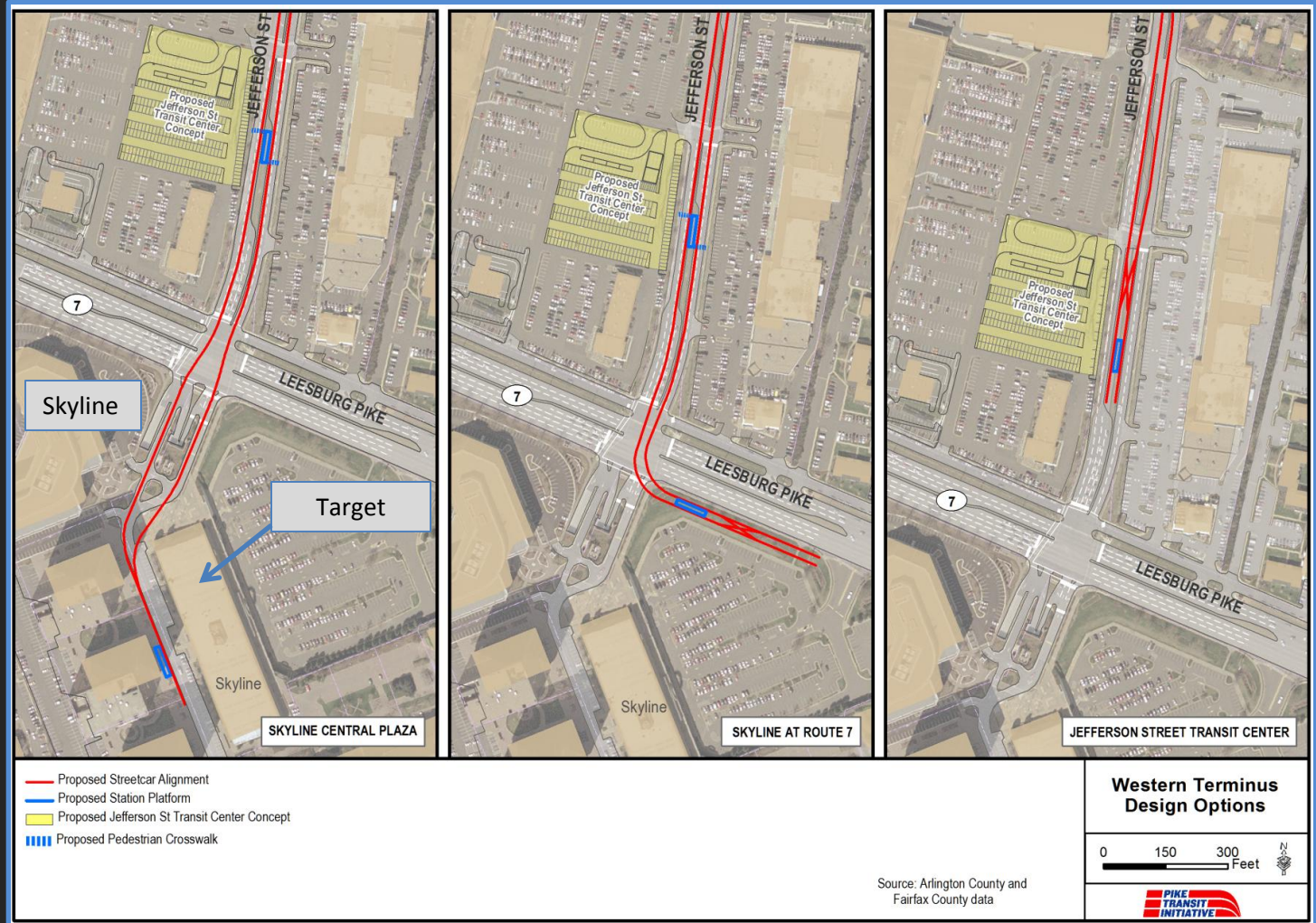
Streetcar Alignment and Facilities



Streetcar Build Alternative: Western Terminus Design Options

3 options:

- Skyline Central Plaza
- Skyline at Route 7
- Jefferson Street Transit Center



Streetcar Build Alternative

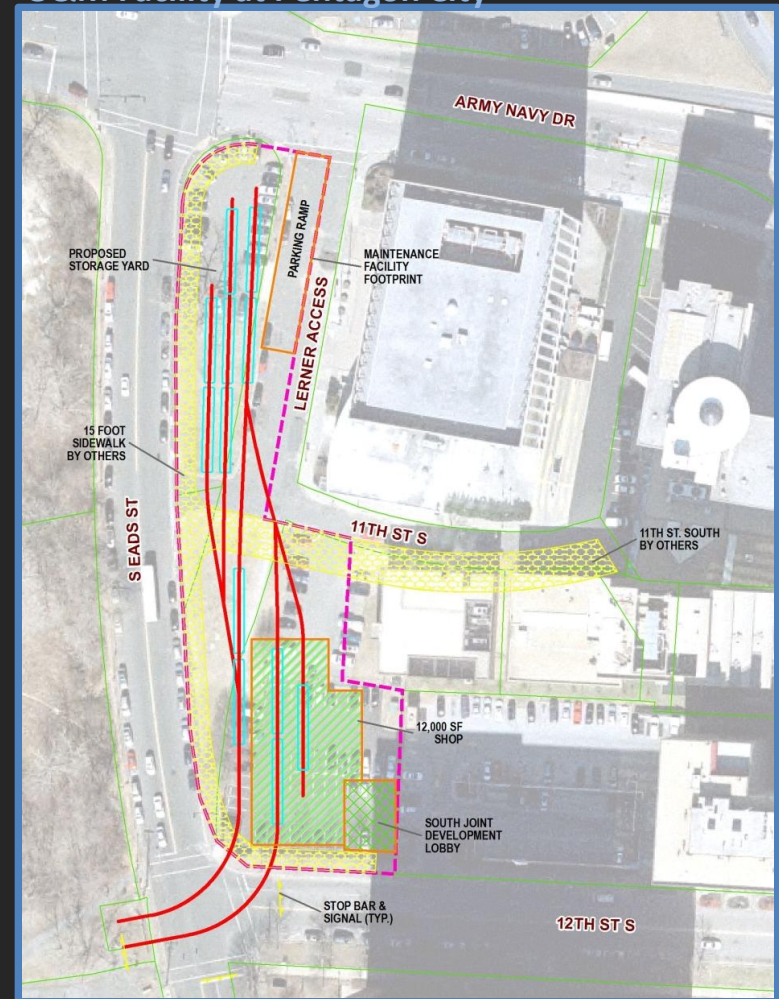
Additional Facilities:

- Operations and Maintenance (O&M) Facility at Pentagon City
- Construction Staging and Equipment Storage Facility (contingent on Columbia Pike realignment)
- Electric power conveyed to streetcar vehicles through a single-wire overhead contact system with parallel underground feeders
- Five traction power substations along the alignment

Notable Engineering Requirements:

- Superstructure and substructure improvements to Four Mile Run Bridge
- Structural improvements to the Skyline deck for the Skyline central plaza terminus option

O&M Facility at Pentagon City



Performance of Alternatives

	No Build	TSM 1	TSM 2	Streetcar Build
Estimated travel time (Jefferson St to Pentagon City)				
2016	28 min	26 min	23 min	22 min
2030	30 min	28 min	25 min	23 min
Transit capacity (peak-hour, peak direction)	1,974	2,073	2,654	2,802
Transit volume to capacity ratio (peak-hour, peak direction)				
2016	0.61	0.66	0.65	0.62
2030	0.67	0.72	0.73	0.74
Estimated daily ridership (ART, Metrobus/ Streetcar)				
2016	17,800	21,700	25,100	26,200
2030	20,700	25,000	28,900	30,500
Daily ridership increase over No Build				
2016	--	22%	41%	47%
2030		21%	40%	47%

Summary of Potential Effects

Results: No severe impacts identified that could not be addressed through mitigation

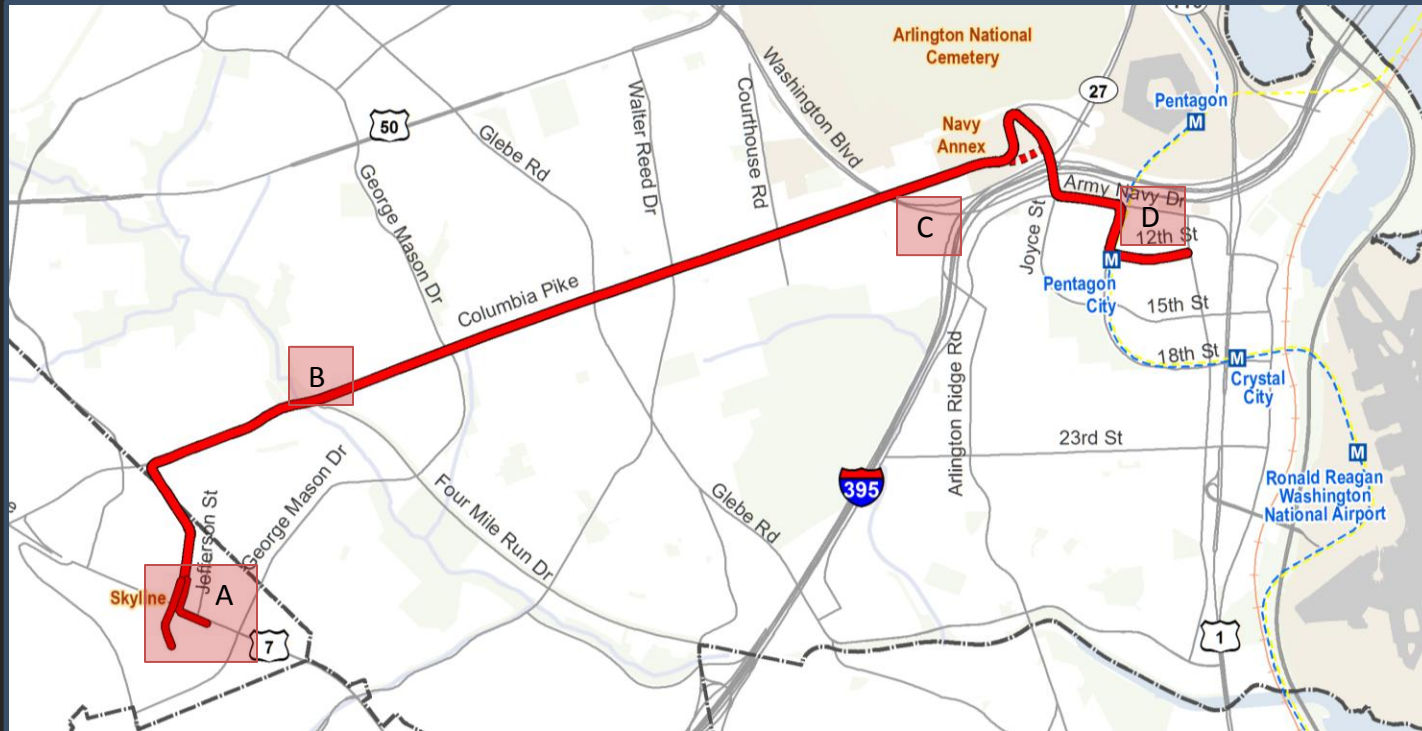
Resources with Minor Effects:

- Transportation
- Land Use, Zoning & Consistency with Local Plans
- Land Acquisitions & Displacements
- Neighborhoods & Community Facilities
- Environmental Justice Communities
- Economic Development
- Visual & Aesthetic Conditions
- Cultural Resources
- Parklands
- Air Quality
- Noise & Vibration
- Water Resources
- Contaminated Materials
- Secondary & Cumulative Effects
- Construction Impacts
- Utilities

Resources with No Effects:

- Energy
- Protected Species
- Geologic Resources
- Wild & Scenic Rivers
- Navigable Waterways
- Wetlands

Summary of Potential Effects



Focus Locations:

A

- Skyline Plaza Deck
- Jefferson Street Transit Center
- Jefferson Street

B

- Four Mile Run Bridge

C

- Construction Staging & Equipment Storage Lot

D

- Operation and Maintenance Facility

Corridor-wide Effects:

- New Super Stop Construction
- Streetcar Track Work
- Traction Power Substations
- Modified Transit Network
- Streetcar Service

Summary of Potential Effects

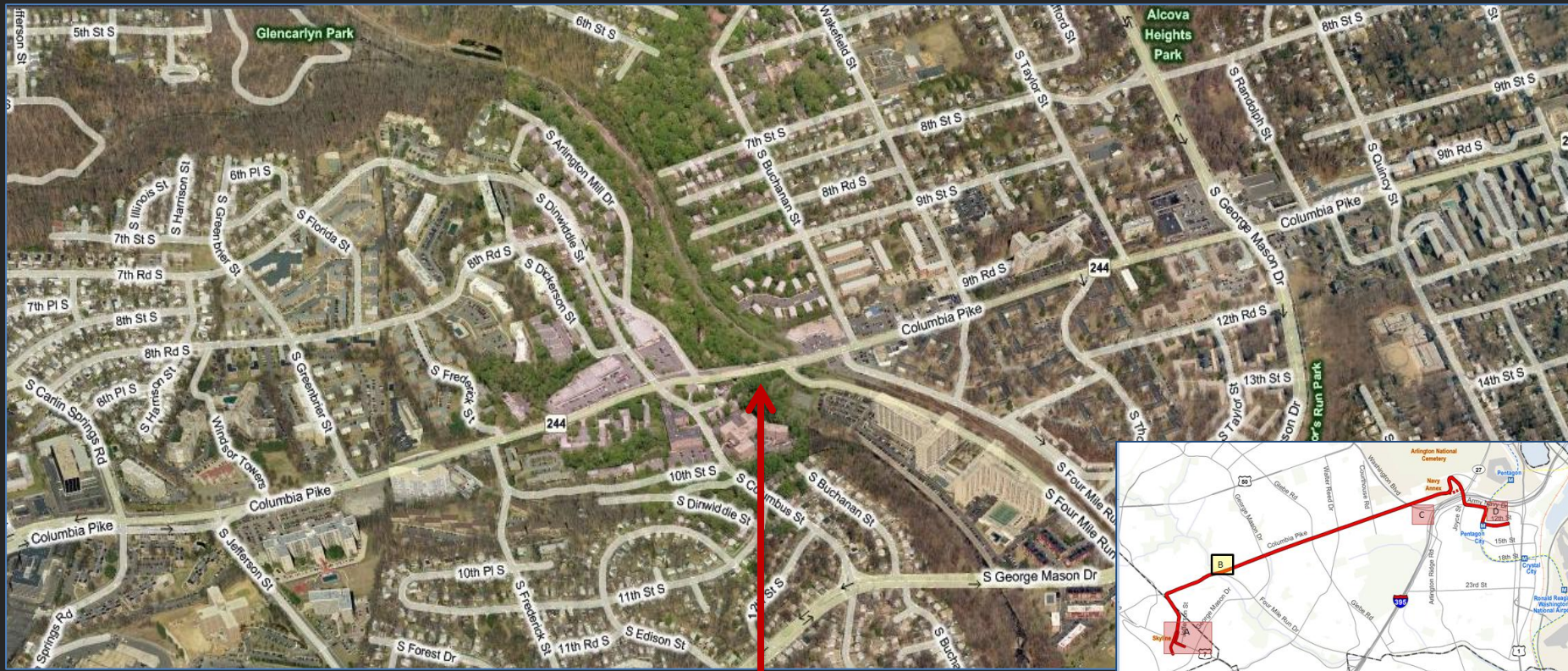
Proposed Jefferson Street
Transit Center

Jefferson Street



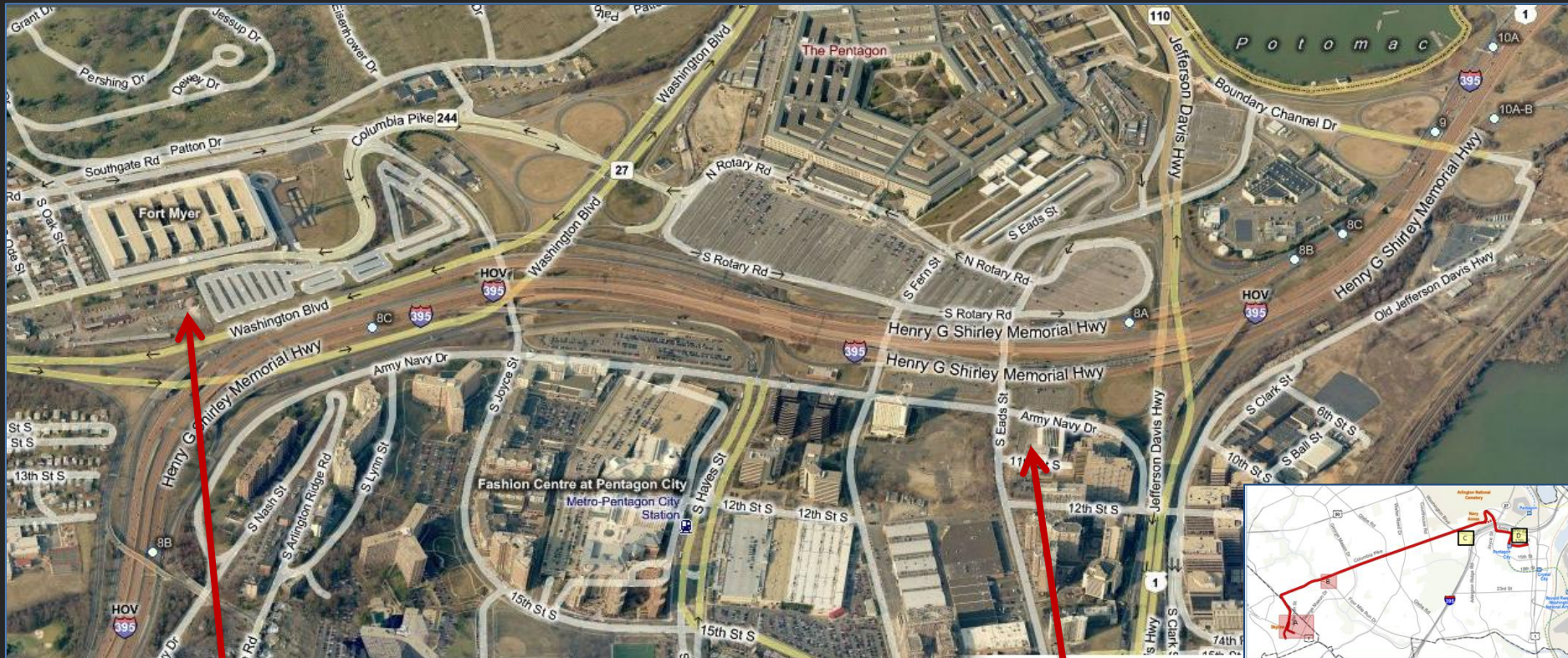
Skyline Plaza Deck

Summary of Potential Effects



Four Mile Run Bridge

Summary of Potential Effects



Construction Staging &
Equipment Storage Facility

Proposed Streetcar
O&M Facility

Evaluation of Alternatives

Problems & Needs:	No Build	TSM 1	TSM 2	Streetcar Build
Increase transit capacity	◊	◐	◑	◑
Increase transit mode share	◊	◐	◑	◑
Invest in transit service that supports growth and economic development	◊	◐	◐	◑
Improve transit access and regional connectivity to and from Skyline	◊	◐	◑	◑

Goals:	No Build	TSM 1	TSM 2	Streetcar Build
Improve mobility for corridor residents, employees, customers, and visitors	◊	◐	◑	◑
Contribute to and serve as a catalyst for economic development	◊	◐	◐	◑
Enhance livability and long-term economic and environmental sustainability of the corridor	◐	◐	◐	◑
Support development of an integrated regional multimodal transportation system	◊	◐	◑	◑
Provide a safe environment for all modes of travel	◑	◑	◑	◑

Legend:

- ◊ Does not support objective
- ◐ Somewhat supports objective
- ◑ Supports objective

Cost Estimates

Capital Cost Estimate:

	TSM 1- Enhanced Bus	TSM 2- Articulated Bus	Streetcar Build*
Capital Cost (2011)	\$4M	\$47M	\$214-231M
Capital Cost (2015)	\$5M	\$53M	\$242-261M

* Depending on Western Terminus design option

Operations and Maintenance Cost Estimate:

	No Build	TSM 1- Enhanced Bus	TSM 2- Articulated Bus	Streetcar Build
O&M Cost (2011)	\$14.4M	\$20.1M	\$19.4M	\$19.4- \$25.5M
O&M Cost (2016)	\$16.7M	\$23.3M	\$22.5M	\$22.5-29.6M

O&M Cost Assumptions:

- Background bus service for all alternatives includes full costs of WMATA regional service.
- TSM 2-Articulated Bus: 16G,16H articulated buses stored and maintained at proposed WMATA Cinder Bed Road facility.
- Streetcar Build costs represents “medium” range from a survey of comparable existing U.S. streetcar and LRT services.

Capital Cost Estimate

How does the 2007 cost estimate differ from the 2011 cost estimate?

- Local project vs. FTA grant-eligible project

- FTA project cost estimates must include:

- Allocated contingency
- Unallocated contingency
- Escalation to year mid-year of construction (2015)

COST ESTIMATE ELEMENTS:

2007

2011

- Base cost

- Base cost

- Allocated Contingency

- Allocated Contingency

- Unallocated Contingency

- Escalation to 2015 (mid-year of construction)

Capital Costs: Comparison to Previous Estimate

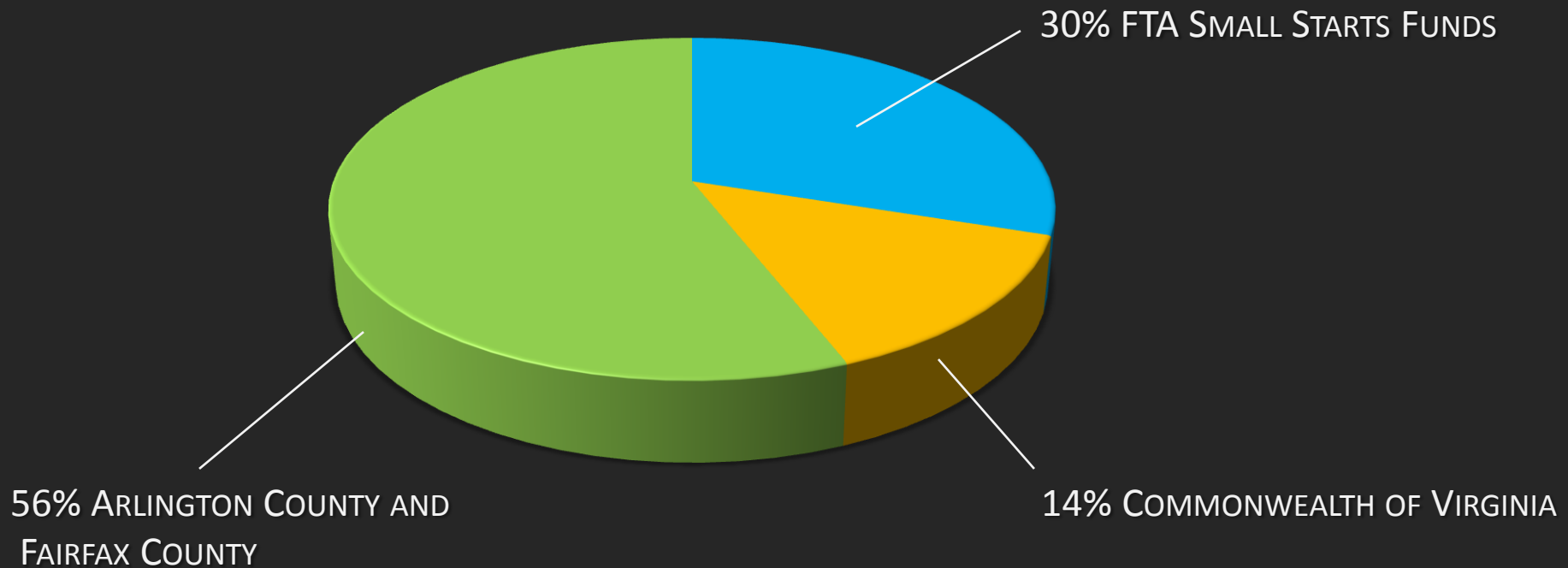
	2007 Estimate (millions)	2011 Estimate (millions)	Notes
Base Cost	\$148	\$187	
<i>Escalation to 2011 (3% annual)</i>	<i>\$167</i>	<i>\$187</i>	Refined Project Definition and Enhancements includes: <ul style="list-style-type: none"> • Longer mainline alignment (4.71 vs. 4.93 miles) • 2 additional vehicles (13 vs. 11) • Larger maintenance facility • Traction power facilities and systems requirement • Right-of-way needs • Structural improvements to Four Mile Run Bridge • Regrading of Jefferson Street
Base cost with contingencies	\$161	\$221	Total contingency 8% in 2007 estimate; 18% in 2011 estimate
<i>Escalation to 2011 (3% annual)</i>	<i>\$182</i>	<i>\$221</i>	
<i>Escalation to 2015 (mid year of construction, 3% annual)</i>	<i>\$206</i>	<i>\$249</i>	

Recent Streetcar and LRT Project Cost Experience

System:	Length of Line (miles)	Cost per Mile (millions of 2015 Dollars)
Charlotte Streetcar Starter Project (estimate)	1.4	\$25
Tampa Streetcar	2.4	\$42
Portland Streetcar Loop (estimate)	3.3	\$47
Houston LRT	7.5	\$49
Norfolk Tide LRT	7.1	\$49
Columbia Pike Streetcar (estimate)	4.9	\$50
Tucson University to Downtown (estimate)	3.9	\$53
Seattle South Lake Union Streetcar	1.3	\$57
Charlotte LRT	9.6	\$64
Tacoma	1.6	\$76

Funding Strategy: Capital Costs

Anticipated Capital Funding Sources:



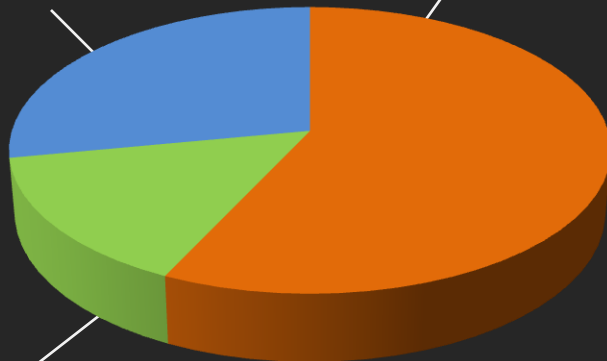
Funding Strategy: O&M Costs (2016 and 2030)

Anticipated approximate O&M Funding Sources:

2016

28% RIDERSHIP AND FARE REVENUE

57% LOCAL FUNDING

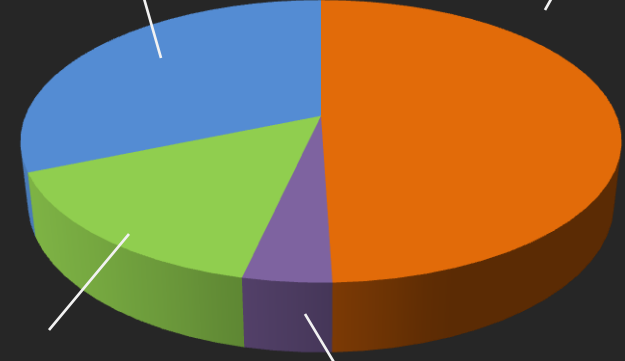


15% STATE OPERATING SUPPORT

2030

31% RIDERSHIP AND FARE REVENUE

49% LOCAL FUNDING



15% STATE OPERATING SUPPORT

4% FEDERAL GRANT FUNDS

Notes:

- Under the current schedule, the project would be eligible for federal operating funds in FY 2025.

Revenue Assumptions:

- Fare revenue estimates based on ridership forecasts; streetcar fare assumed equal to bus fare.
- Average fare paid based on historical WMATA experience.

5. Next Steps

Implementation Schedule

	2009	2010	2011	2012				2013	2014	2015	2016	2017
				Q1	Q2	Q3	Q4					
Alternatives Analysis/Environmental Assessment												
<i>NEPA Class of Action Determination</i>	◆											
<i>Small Starts and NEPA Approvals</i>												
Preliminary Engineering/Project Development												
Design and Construction												
Systems Testing and Begin Revenue Service												◆

Next Steps

- Regularly check project website for project updates (www.piketransit.com)
- Encourage participation within your neighborhoods/civic associations
- Participate in the Spring 2012 public meetings on the project

6. Questions